

# FURTHER NOTES ON SNAKES FROM THE CHIN HILLS.

BY

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(WITH NOTES BY MAJOR F. WALL, I.M.S., C.M.Z.S.)

During the present year (1910) only one addition was made to the number of species obtained from this locality, namely a specimen of the genus *Typhlops*, but the writer was fortunate enough to procure several more specimens of the new *Tropidonotus* described last year by Major Wall. Such other notes as are thought to be of interest are added under the various species.

*Typhlops diardi*.—One gravid female (No. 52-10) was captured on the main road near Minkin (5,600 ft.) on the evening of 13th June at dusk. When first handled this little creature lashed backwards and forwards head to tail very rapidly and with sufficient force to raise its body completely from the ground, in much the same way that some earthworms will do when touched. It is not perhaps unreasonable to suppose that this performance, which looks as if it must be uncommonly unpleasant for the actor, is a protective device of nature evolved from a simple instinctive shrinking or wriggling effort to regain liberty after capture. The writer well remembers the uncanny appearance presented by a large millipede in the Malay States, which adopted the same tactics when disturbed and seemed to be seized with a bad fit, thereby producing in the mind of the would-be captor an unwillingness to touch it, even though it was known to be quite harmless. The length of the snake was 14 inches including the stumpy tail which was broader than long. There were 26 rows of scales round the body anteriorly, and 28 rows at midbody. Colour shining brown above, each scale with a paler submarginal crescent; beneath whitish. It contained some well developed eggs.

[Many of the snakes to which these notes refer have been submitted to me by Capt. Venning for my examination. The specimen referred to as *Typhlops diardi* exactly agrees with the small specimen I obtained in the Khasi Hills which I made the type of a distinct species under the name

*tephrosoma* (Bomb. N. H. Jourl., Vol. XVIII, p. 314). In Capt. Venning's specimen I find the costal rows 28 anteriorly, and in the whole body except before the vent for a short space where they are 26. The rostral does not reach back as far as the eyes, and these organs are very indistinct. The colour dorsally is dark brown, belly lighter with a series of distant, irregularly spaced, white, ventral, median spots. I notice that the præfrontal is nearly twice as long as the other superior shields. The frontal is rather the smallest shield. The supraocular is rather broader than the other shields. There are two enlarged temporals, and the parietal touches one scale behind on the left side, two on the right. The lateral breadth of the body is  $\frac{1}{34}$  that of the total length. I still think that this form (*tephrosoma*) deserves to rank as a species very closely allied to *diardi*. It is noteworthy that *diardi* is a very common snake, and up till now no single specimen has been recorded with 28 scale rows. The specimen is further interesting in that it is gravid. It contains now 5 (I think) eggs. Capt. Venning had extracted one, and I extracted another, so the full complement appears to be 7. Capt. Venning called my attention to the presence of a small embryo within the egg, and I am able to confirm his observation. The egg I examined measured 17mm., in length, and 10mm. in breadth. On the vertebral aspect a small chamber was discovered in the yolk just beneath the investing membrane. This measured 5mm., in diameter and contained a small embryo, the head, and eye, and a bulbous process (the heart?) being very distinctly visible, the body behind being spirally twisted. The whole might have measured  $1\frac{1}{2}$  inches unravelled. The condition is exactly that noted and figured by me in this Journal (Vol. xix, p. 784) with reference to the eggs of the tree snake *Dendralophis tristis* and suggests the probability that the eggs may be discharged as such. Further observations are however necessary to negative the idea of a viviparous habit.

F. WALL.]

*Blythia reticulata*.—Three specimens are perhaps noteworthy. No. 55/10 was an immature specimen taken on 19th June under a heap of stones on the rifle range (6,600 ft.), where also another small one was seen but managed by its remarkable agility to escape minus the tip of its tail. The specimen captured was 5.75 inches long (tail .7 inch) and was coloured similarly to all the adult specimens seen here. On the other hand one taken last year in April at Fort White was smaller in size (4.4 inches) and was white beneath. These facts coupled with the undeveloped state of the embryos in the next specimen which was taken in July

seem to point to the hatching season being some time in the cold weather or early spring.

No. 58/10 taken at dusk on 9th July was a gravid female of remarkable size, measuring 20·25 inches of which the tail was 2·5 inches. It contained six, large creamy eggs placed in a single longitudinal row and measuring about ·8 by ·4 inch. The two nearest to the vent were in the left ovary, the remainder in the right. The two examined showed no signs of any embryonic development. No. 63/10 captured on 26th July was also a large one (18·9 inches in length), and contained an earthworm in gastro.

*Oligodon dorsalis*.—One immature specimen (54/10) was found under a flowerpot stand against the wall of my house on 17th June. Its length was 6 inches including the tail, which accounted for ·9 inch. The ventrals were 162 and the subcaudals 40. A full-grown specimen (No. 61110) taken on 16th July was 17·75 inches long, tail 2·75 inches, and had 182 ventrals and subcaudals 41 pairs. The costal rows in all the specimens from this locality diminish to 13 posteriorly by the absorption of the 3rd and 4th rows above the ventrals as remarked by Major Wall in Vol. XVIII of the Society's Journal.

In all the specimens collected here the nostril has been found to be pierced in an undivided nasal, and not as stated in the "Fauna of British India" volume on Reptilia. All the specimens have had the bright yew-berry red colour beneath the tail, and the vertebral stripe chestnut.

*Pseudoxenodon macrops*.—Four specimens as below :—

No.	Date.	Length.	Tail.	Ventrals.	Subcaudals.
47/10	20th May	29·5	6·5	160	62 pairs
49/10	26th „	31·5	6·25	175	67 „
62/10	18th July	26	5	155	60 „
66/10	31st „	39·25	8	177	78 „

The costals are reduced from 19 to 17 rows at midbody by the union of the 3rd and 4th rows as remarked by Major Wall in Volume XVIII, page 321, the next reduction to 15 occurring in the same rows quite close behind midbody. No. 62/10 is abnormal in the number of labials, having six on the right and seven on the left instead of the usual eight. No. 47/10 was a gravid female

embryos undeveloped in the eggs which were six in number and of a creamy-white colour the largest measuring 1·5 by ·5 inch. The usual colouring of this species here is a rich chestnut rather than olive with a dorso-lateral series of black spots, the opposite pairs connected across the back by a pale (buff) saddle or bar.

*Tropidonotus subminiatus*.—Two were captured, both gravid females. No. 48/10 was taken on the 23rd May and contained some eggs, less than half an inch long, while No. 53/10 caught on 16th June had much larger eggs, six being found in each ovary. In both these specimens only two supralabials touch the eye, and this is so common an aberration that it fails entirely as a distinguishing feature from the nearly allied *himalayanus*. No. 53/10 had nearly all the supralabial sutures black. It was first seen lying on its back having swallowed the right hind-leg of a toad (*Bufo melanostictus*) which was making every endeavour to escape and had evidently dragged the snake down a low bank overturning it in the fall. The victim measured three inches from snout to vent and some two and-a-half inches across. The snake had already made a meal on a lizard, the remains of which were found in gastro. The ventrals and subcaudals in the two specimens were as follows :—

No. 48/10	Ventrals 165	Subcaudals 92 pairs.
No. 53/10	„ 162	„ 61 „
No. 48/10 had four postoculars on right.		

*Tropidonotus himalayanus*.—Two specimens.

No.	Date.	Length.	Tail.	Ventrals.	Subcaudals.
59/10.	12th July.	27·25.	7·25.	157	85 pairs.
65/10.	29th „	29·5.	4·75.	154	87 „

The latter had eaten a frog. In both all the supralabials were black sutured. No. 65/10 had a beautiful yellow collar, while the other had only traces of it in a few yellow spots on the nape.

*Tropidonotus venningi*. (Wall.)—Five specimens.

No.	Date.	Length.	Tail.	Ventrals.	Subcaudals.
41/10	12th March	29·5	9	164	108 pairs.
43/10	20th April	25·5	7·4	169	100 „
57/10	26th June	22·75	7·75	162	126 „
64/10	27th July	25·75	7·5	161	110 „
68/10	8th August	27	8·25	166	121 „

No. 43/10 is anomalous in the costals, the rows being reduced to 15 posteriorly owing to the occurrence of some enlarged scales in the lowest rows on either side. At a point nearer to the vent than two heads' lengths there are 16 rows, the absorbed rows reappearing and disappearing again. No. 41/10 was a female with some six eggs, the largest measuring  $\cdot 5$  inch long by nearly  $\cdot 25$  inch across. Nos. 57/10 and 68/10 were also gravid females. Two of the specimens struck fiercely when being captured and one (No. 68/10) progressed in leaps by raising the anterior half of its body and throwing it forward in its attempts to avoid capture. The secretion of the anal glands was found to be white of the consistency of white enamel paint. No. 64/10 and perhaps No. 43/10 have the tip of the tail broken. In No. 68/10 the second subcaudal from the vent is entire. In the region of the vent all the costals, even the outermost rows, showed traces of keels.

[I have dissected out the skull of one of these specimens, and find the dentition as follows:—

*Maxillary*.—There is no gap in the series behind, and the teeth number 29 on each side. The last 3 are very slightly enlarged, and compressed.

*Palatine*.—16, subequal. *Pterygoid*.—19 on right side, 20 on left, subequal. *Mandibular*.—32 on the left side, 29 on the right, from which a fragment is broken posteriorly that would probably support 3 teeth.—F. WALL.]

*Psammodynastes pulverulentus*.—No. 44/10 found under a boulder on 2nd May was a female containing eggs without any distinct traces of development. Length 24 inches, tail 4.25 inches. The costals were 17-17-15, ventrals 161 and subcaudals 58 pairs. An anomaly is the divided anal shield. There are three postoculars. Two loreals, the lower small, and the upper large subtriangular and nearly reaching the eye. The general colour was dark brown, the head vermiculated with white and grey and having a broad ivory white band from the rostral passing below the eye but not on the labial margin. This band disappears actually on the sides of the neck and reappears as small widely separated white spots on the ends of the ventrals and subcaudals. A row or three or four white spots on the infralabials on both sides and some similar spots on the sublinguals. Beneath it is whitish anteriorly, darker posteriorly powdered with bluish grey and having two longitudinal bluish lines.

Ingested was found the remains of a large "*Ophisaurus gracilis*," swallowed head foremost as seems usual.

*Callophis maclellandi*. (var: *typica*).—One specimen (51/10) was found in a nullah with its head much battered on 2nd June. Its length was 27·5 inches, tail 2·25 inches. The ventrals were 200, and subcaudals 20. The head had the usual ivory white band; the black bands were 25, of which 2 were on the tail. In addition there was a dorso-lateral series of black spots intermediate between the black bands. These spots commence after the 5th band and occur after each band except the 8th and 9th and the last on the tail, but the spot on the left after the last band but two and the last but one on the body has disappeared, and in these two places the intermediate black blotch of the belly has become distorted upwards on to the flank.

*Lachesis monticola*.—Three specimens—

No.	Date.	Length.	Tail.	Costals.	Ventrals.	Subcaudals.
50/10	29th May	12·5	1·5	25-25-21	150	39 pairs
56/10	23rd June	15·75	1·75	27-25-21	151	35 „
60/10	15th July	12	1·75	23-23-19	147	46 „

In the two first cases a shrew had been swallowed. The last had some abnormalities in the subcaudals as follows:—the 1st to 6th from the vent are entire, the 7th to 15th divided, and the 16th to 22nd entire. The supracaudals were in even rows unaffected by these anomalies.

*Lachesis jerdoni*.—

No.	Date.	Ventrals.	Subcaudals.	Supralabials.
42/10	17th April	172	58 pavis.	7 on right, 8 on left.
46/10	17th May	164	55 „	7
67/10	31st July	181	23 „	8, 4th on left minute.
67/10	had tail broken.			